

## Claims

What I claim as my invention is:

1. A rotary kiln for pyro-processing organic and inorganic materials, comprising:  
a cylindrical, elongated steel shell having a feed end, an opposite discharge end, the feed end  
5 being more elevated than the discharge end, and defining an interior longitudinal heating  
chamber for pyro-processing materials; a driving mechanism to rotate the kiln around its  
longitudinal axis to maintain the material therein moving from the feed end to the discharge  
end; an insulating refractory lining contiguous to the cylindrical shell, comprised of a  
plurality of movable refractory brick, in abutment with respect to one another, as means to  
10 contain heat; a work refractory lining, annularly contiguous to said insulating lining,  
comprised of a plurality of refractory brick members, in abutment with respect to one  
another, as means to contain heat and support the material under processing.
2. A rotary kiln construction as set forth in claim 1 wherein said insulating refractory lining is  
built with hollow bricks.
- 15 3. The kiln of claim 2 wherein the work lining is comprised of dense brick.
4. The kiln of claim 3 in which the insulating lining includes a plurality of bricks secured to  
the inner cylindrical surface of the shell in both axial and circumferential directions.
5. The kiln of claim 4 wherein the insulating hollow-bricks are composed of a refractory  
material.
- 20 6. The kiln of claim 5 where the hollow-bricks are tapered or straight.
7. The kiln of claim 6 wherein the hollow-bricks are made by pressing and firing.
8. The kiln of claim 7 in which the insulating lining thickness is between 1.5 in. and 4 in.